

AMENDMENTS TO THE CLAIMS

1. (Currently amended) A method for designing a low drag vehicle comprising:
determining at least two vehicle configurations a plurality of configurations for at least two different Mach numbers that minimize the rate of change of second derivatives along of cross-sectional area distributions of the vehicle configurations, wherein at least one of the vehicle configurations is determined at a Mach number and a roll angle that is different than the other of the at least two vehicle configurations;

determining second derivative curves of the cross-sectional area distributions of the vehicle configurations;

applying weighting factors to the second derivative curves to form weighted second derivative curves;

determining the average of the weighted second derivative curves; and

smoothing the average of the weighted second derivative curves to form a smoothed average second derivative curve, averaging the configurations to determine a final configuration.

2. (Currently amended) The method according to Claim 1 further comprising:
optimizing the configuration for cross-sectional areas distributions obtained along Mach angle lines.

3. (Canceled)

4. (Currently amended) The method according to Claim 1 further comprising:
determining weighting factors for the at least two configurations based on the difference between thrust available and thrust required weighting the configurations for the at least two Mach numbers.

5. (Currently amended) The method according to Claim 1 further comprising:

KOESTNER BERTANI LLP
14612 MACARTHUR BLVD.
SUITE 400
IRVINE, CA 92612
TEL (949) 251-0150
FAX (949) 251-0260

integrating the ~~second derivative of the~~ smoothed average second derivative curve ~~cross-sectional area for the final configuration~~ to determine the cross-sectional area distribution for a final configuration.

6. (Currently amended) The method according to Claim 1 ~~3~~ wherein smoothing the average of the weighted second derivative curves ~~the second derivative of cross-sectional area~~ includes filtering the average of the weighted second derivative curves ~~the rate of change of cross-sectional area for the final configuration.~~

7. (Currently amended) The method according to Claim 1 further comprising: determining weighting factors for the ~~at least two~~ Mach numbers based on a percentage of time the vehicle is expected to operate at each Mach number during typical operational profiles.

8. (Currently amended) The method according to Claim 1 further comprising: determining weighting factors for the ~~at least two~~ Mach numbers based on at least one of the group of: minimized drag, minimized sonic boom disturbance, and minimized inlet flow distortion.

9. (Currently amended) The method according to Claim 1 ~~further comprising:~~ wherein smoothing the average of the weighted second derivative curves includes averaging the ~~values~~ value of a selected points point of ~~on the average of the weighted second derivative curves~~ ~~second derivative of the cross-sectional area with the points point before and points a point after the selected points point.~~

10. (Previously presented) The method according to Claim 1 wherein the vehicle is an aircraft.

11-26. (Canceled)

27. (New) The method according to Claim 1 wherein the at least two vehicle configurations are structurally fixed.

KOESTNER BERTANI LLP
18402 MACARTHUR BLVD.
SUITE 400
IRVINE, CA 92612
TEL (949) 251-0260
FAX (949) 251-0260